

What is claimed is:

1. A method of ablating a layer of a material having an ablation damage threshold by a laser beam, comprising steps of:
 - 5 providing a source of laser beam having a specific wavelength;
 - depositing a coating of an anti-reflector on the layer of the material for preventing the laser beam from reflecting back, and
 - ablating the coating of the anti-reflector and the layer of the material with the laser beam having a fluence lower than the ablation damage threshold of the
 - 10 material.
2. The method of ablating a layer of the material, according to claim 1, wherein the layer of the material is in multilayer structure of different materials, the material having different ablation damage thresholds, the method further
15 comprising steps of:
 - providing a source of laser beam having a fluence lower than the ablation damage threshold of a top layer of the multilayer structure;
 - depositing a coating of an anti-reflector on the top layer for preventing the laser beam from reflecting back, and
 - 20 ablating the coating of anti-reflector and the top layer with the laser beam at a specific wavelength.
3. The method of ablating a layer of the material, according to claim 2, wherein the layer of the material is in multilayer structure of different materials, the
25 material of a top layer having an ablation damage threshold higher than that of the material in underlying layers of the multilayer structure, the method further comprising steps of:
 - providing a source of laser beam having a fluence at a level which represents substantially no ablation damage to the underlying layers;
 - 30 depositing a coating of an anti-reflector on the top layer for preventing the laser beam from reflecting back, and
 - ablating the coating of anti-reflector and the top layer with the laser beam at a specific wavelength.

4. A method of direct laser patterning a multilayer microstructure having at least two layers of different materials, the material in a top layer having a higher ablation damage threshold than that of the remaining layers, comprising steps of:
depositing a coating of an anti-reflector on the top layer, and
5 abating the top layer through the coating of anti-reflector, using the laser beam whose fluence is lower than the ablation damage threshold of the material of the top layer.
5. The method according to claim 4, wherein the multilayer microstructure is a
10 display element having metal electrodes in the top layer and an opto-organic material in one of the remaining layers, the method further comprising steps of:
depositing a coating of silver on the top layer, and
patterning with a laser beam the top layer through the layer of silver to form
the metal electrodes, the laser beam having a specific wavelength and a fluence
15 lower than an ablation damage threshold of the opto-organic material.
6. The method according to claim 5, wherein the metal electrodes are made of aluminum and the laser beam is from an XeCl excimer laser at 308 nm of
wavelength.
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7. The method according to claim 6, wherein the opto-organic material is any of a light emitting organic material, polymeric material and a liquid crystal.
8. The method according to claim 7, wherein the opto-organic material is TPD
25 and Alq₃.
9. The method according to claim 5, wherein the patterning the top layer is performed by using a patterned mask.
- 30 10. The method according to claim 5, wherein the patterning the top layer is performed by a step of:
imparting a lateral movement between the laser beam and the conductive metal electrode which ablating.

11. A method of laser patterning a conductive metal electrode having a higher ablation threshold deposited on a substrate material having a lower ablation threshold comprising steps of:

- 5 depositing a thin coating of an anti-reflector on the conductive metal electrode, and
ablating the conductive metal electrode using a laser beam with fluence which represents substantially no damages in the underlying substrate material.

12. The method of laser patterning a conductive metal electrode according to claim 11, further comprising the steps of:

- 10 providing a source of laser beam at a wavelength so that the thin coating of anti-reflector enhances coupling of the laser beam with the conductive metal electrode by preventing the laser beam from reflecting back, and
15 ablating the conductive metal electrode using the laser beam having a fluence below the higher ablation threshold.

13. The method of laser patterning a conductive metal electrode according to claim 12, further comprising a step of:

- 20 ablating the conductive metal electrode using the laser beam having a fluence below the lower ablation threshold.

14. The method of laser patterning a conductive metal electrode according to claim 11, further comprising a step of:

- 25 ablating the conductive metal electrode by using projection lithography and a patterned mask.

15. The method of laser patterning a conductive metal electrode according to claim 11, further comprising a step of:

- 30 imparting a lateral movement between the laser beam and the conductive metal electrode which ablating.

16. A multilayered integrated circuit comprising:
a substrate;
a layered structure of one or more materials on the substrate, the materials
being selected from a group consisting of organic and polymeric substances, and
5 having a first ablation damage threshold;
a first patterned layer of a metal on the layered structure, the metal having a
second ablation damage threshold, the second ablation damage threshold higher
than the first ablation damage threshold, and
a coating of antireflecting material on the first patterned layer which
10 enhances coupling of a laser light with the patterned layer.
17. The multilayered integrated circuit according to claim 16, further
comprising:
a second patterned layer on the other side of the layered structure, the first
15 and the second patterned layer sandwiching the layered structure and forming an
array of opto-electronic elements.
18. The multilayered integrated circuit according to claim 17, wherein the
layered structure is an opto-organic material, and the first and second patterned
20 layer is made of aluminum.:
19. The multilayered integrated circuit according to claim 18, wherein the opto-
organic material is any of a light emitting organic, polymeric material and liquid
crystal, and the antireflecting material is silver.
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20. The multilayered integrated circuit according to claim 19, wherein the opto-
organic material is TPD and Alq₃.